



30-015-37551

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Yates Petroleum Corp.

Eddy County
Bebop "BPE" State
#1H
OH

Survey: MWD

Pathfinder X & Y Survey Report

15 April, 2011

PATHFINDER
A Schlumberger Company



Pathfinder
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3334.50usft (Patterson #36 21.5 KB)
Site:	Bebop "BPE" State	MD Reference:	WELL @ 3334.50usft (Patterson #36 21.5 KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Project:	Eddy County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Bebop "BPE" State		
Site Position:		Northing:	397,784.505 usft
From:	Map	Easting:	725,344.556 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 5' 31.904 N
		Longitude:	103° 44' 20.935 W
		Grid Convergence:	0 32 "

Well	#1H				
Well Position	+N/-S	0.00 usft	Northing:	397,784.505 usft	Latitude: 32° 5' 31.904 N
	+E/-W	0.00 usft	Easting:	725,344.556 usft	Longitude: 103° 44' 20.935 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level: 3,313.00 usft

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	03/03/11	7.69	60.04	48,547

Design:		OH		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	175.42



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Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL.@ 3334 50usft (Patterson #36'21.5 KB)
Site:	Bebop "BPE" State	MD Reference:	WELL.@ 3334 50usft (Patterson #36'21.5 KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM:5000 1:Single User Db

Survey Program		Date	04/15/11	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
200.00	7,310.00	GYRO (OH)	MWD	MWD - Standard
7,370.00	12,760.00	MWD (OH)	MWD	MWD - Standard

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
7,310.00	1.25	152.48	7,308.82	-3,974.32	-21.56	-25.35	19.47	0.00	397,762.94	725,319.21
7,370.00	0.88	178.14	7,368.81	-4,034.31	-22.60	-25.03	20.53	0.99	397,761.90	725,319.53
7,478.00	1.23	179.90	7,476.79	-4,142.29	-24.59	-25.00	22.51	0.33	397,759.92	725,319.55
7,573.00	1.32	175.42	7,571.76	-4,237.26	-26.70	-24.91	24.62	0.14	397,757.81	725,319.64
7,667.00	1.41	166.28	7,665.74	-4,331.24	-28.90	-24.55	26.85	0.25	397,755.60	725,320.00
7,762.00	1.41	162.85	7,760.71	-4,426.21	-31.15	-23.93	29.14	0.09	397,753.35	725,320.63
7,857.00	1.23	164.17	7,855.68	-4,521.18	-33.25	-23.31	31.29	0.19	397,751.25	725,321.25
7,951.00	1.23	159.33	7,949.66	-4,615.16	-35.17	-22.68	33.24	0.11	397,749.34	725,321.88
8,046.00	1.49	163.38	8,044.63	-4,710.13	-37.30	-21.96	35.43	0.29	397,747.20	725,322.59
8,141.00	1.32	160.04	8,139.61	-4,805.11	-39.52	-21.24	37.69	0.20	397,744.99	725,323.32
8,235.00	1.32	172.43	8,233.58	-4,899.08	-41.61	-20.72	39.82	0.30	397,742.90	725,323.83
8,247.00	1.32	166.36	8,245.58	-4,911.08	-41.88	-20.67	40.09	1.16	397,742.63	725,323.88
8,279.00	1.49	166.10	8,277.57	-4,943.07	-42.64	-20.49	40.87	0.53	397,741.86	725,324.07
KOP:8279.00 MD:1.49 INC:166.10 AZI:8277.57 TVD										
8,310.00	4.40	171.81	8,308.52	-4,974.02	-44.21	-20.22	42.45	9.42	397,740.30	725,324.34
8,342.00	8.44	174.89	8,340.32	-5,005.82	-47.76	-19.84	46.03	12.67	397,736.74	725,324.72
8,373.00	12.93	176.56	8,370.77	-5,036.27	-53.50	-19.42	51.77	14.52	397,731.01	725,325.13
8,405.00	17.41	178.85	8,401.65	-5,067.15	-61.86	-19.11	60.14	14.12	397,722.64	725,325.44
8,437.00	21.54	180.34	8,431.81	-5,097.31	-72.53	-19.05	70.77	13.00	397,711.98	725,325.50
8,468.00	25.50	178.93	8,460.23	-5,125.73	-84.89	-18.96	83.11	12.90	397,699.61	725,325.59
8,500.00	29.46	177.18	8,488.62	-5,154.12	-99.65	-18.45	97.85	12.63	397,684.86	725,326.11



Pathfinder
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3334.50usft (Patterson #36.21.5 KB)
Site:	Bebop "BRE" State	MD Reference:	WELL @ 3334.50usft (Patterson #36.21.5 KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM:5000 1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
8,531.00	32.80	175.86	8,515.15	-5,180.65	-115.64	-17.46	113.88	11.00	397,668.87	725,327.09	
8,563.00	35.26	174.80	8,541.67	-5,207.17	-133.49	-16.00	131.78	7.91	397,651.02	725,328.56	
8,594.00	37.99	174.45	8,566.54	-5,232.04	-151.90	-14.27	150.27	8.83	397,632.61	725,330.29	
8,626.00	41.50	173.61	8,591.14	-5,256.64	-172.24	-12.13	170.72	11.10	397,612.26	725,332.42	
8,657.00	44.05	172.53	8,613.90	-5,279.40	-193.14	-9.59	191.75	8.56	397,591.37	725,334.97	
8,689.00	46.43	171.74	8,636.43	-5,301.93	-215.64	-6.48	214.44	7.64	397,568.86	725,338.08	
8,720.00	49.33	171.49	8,657.22	-5,322.72	-238.39	-3.12	237.38	9.37	397,546.12	725,341.43	
8,752.00	52.14	171.25	8,677.47	-5,342.97	-262.88	0.60	262.09	8.80	397,521.62	725,345.15	
8,784.00	55.31	171.05	8,696.40	-5,361.90	-288.37	4.56	287.81	9.92	397,496.14	725,349.12	
8,815.00	58.30	171.26	8,713.37	-5,378.87	-314.00	8.55	313.68	9.66	397,470.51	725,353.11	
8,846.00	62.08	171.79	8,728.78	-5,394.28	-340.60	12.51	340.51	12.28	397,443.91	725,357.07	
8,878.00	65.95	171.65	8,742.79	-5,408.29	-369.06	16.66	369.21	12.10	397,415.45	725,361.21	
8,910.00	69.29	171.12	8,754.98	-5,420.48	-398.31	21.09	398.72	10.55	397,386.20	725,365.64	
8,941.00	71.23	170.49	8,765.45	-5,430.95	-427.11	25.75	427.80	6.54	397,357.40	725,370.31	
8,973.00	74.66	169.73	8,774.83	-5,440.33	-457.24	31.01	458.26	10.96	397,327.26	725,375.56	
9,004.00	78.96	169.10	8,781.90	-5,447.40	-486.90	36.55	488.27	14.01	397,297.60	725,381.11	
9,036.00	81.34	168.85	8,787.38	-5,452.88	-517.85	42.58	519.59	7.48	397,266.66	725,387.14	
9,067.00	83.62	168.91	8,791.43	-5,456.93	-548.00	48.51	550.13	7.36	397,236.50	725,393.06	
9,099.00	86.61	169.31	8,794.16	-5,459.66	-579.31	54.53	581.81	9.43	397,205.20	725,399.05	
9,194.00	89.60	171.11	8,797.30	-5,462.80	-672.86	70.67	676.35	3.67	397,111.65	725,415.23	
EOC:9194.00°MD:89.60°INC:171.11°AZI:8797.30°TVD											
9,298.00	90.66	174.80	8,797.06	-5,462.56	-776.05	83.42	780.24	3.69	397,008.45	725,427.98	
9,393.00	89.87	175.42	8,796.62	-5,462.12	-870.71	91.52	875.23	1.06	396,913.80	725,436.08	
9,488.00	90.13	175.24	8,796.62	-5,462.12	-965.39	99.26	970.23	0.33	396,819.11	725,443.81	
9,581.00	90.75	175.77	8,795.91	-5,461.41	-1,058.10	106.55	1,063.23	0.88	396,726.40	725,451.10	
9,675.00	88.81	174.36	8,796.27	-5,461.77	-1,151.75	114.63	1,157.22	2.55	396,632.76	725,459.19	
9,770.00	89.16	173.75	8,797.95	-5,463.45	-1,246.22	124.47	1,252.18	0.74	396,538.29	725,469.03	



Pathfinder
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3334.50usft (Patterson #36 21.5 KB)
Site:	Bebop "BPE" State	MD Reference:	WELL @ 3334.50usft (Patterson #36 21.5 KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
9,865.00	89.96	174.98	8,798.68	-5,464.18	-1,340.75	133.80	1,347.16	1.54	396,443.75	725,478.35	
9,980.00	89.60	176.03	8,799.05	-5,464.55	-1,435.46	141.24	1,442.16	1.17	396,349.04	725,485.80	
10,054.00	89.52	176.12	8,799.77	-5,465.27	-1,529.24	147.68	1,536.15	0.13	396,255.27	725,492.23	
10,149.00	90.22	176.47	8,799.99	-5,465.49	-1,624.04	153.81	1,631.13	0.82	396,160.47	725,498.37	
10,244.00	90.84	177.18	8,799.11	-5,464.61	-1,718.89	159.08	1,726.10	0.99	396,065.62	725,503.63	
10,338.00	90.22	176.47	8,798.24	-5,463.74	-1,812.74	164.28	1,820.07	1.00	395,971.77	725,508.84	
10,433.00	89.87	176.65	8,798.16	-5,463.66	-1,907.57	169.98	1,915.05	0.41	395,876.94	725,514.54	
10,527.00	88.37	176.12	8,799.61	-5,465.11	-2,001.36	175.91	2,009.02	1.69	395,783.14	725,520.46	
10,622.00	88.90	175.24	8,801.87	-5,467.37	-2,096.07	183.06	2,103.99	1.08	395,688.44	725,527.62	
10,717.00	90.48	176.91	8,802.38	-5,467.88	-2,190.84	189.56	2,198.98	2.42	395,593.67	725,534.12	
10,811.00	91.28	176.38	8,800.94	-5,466.44	-2,284.66	195.06	2,292.94	1.02	395,499.84	725,539.62	
10,906.00	89.78	176.30	8,800.06	-5,465.56	-2,379.46	201.13	2,387.92	1.58	395,405.04	725,545.68	
11,000.00	90.04	176.21	8,800.21	-5,465.71	-2,473.26	207.27	2,481.91	0.29	395,311.24	725,551.82	
11,086.00	90.04	176.21	8,800.15	-5,465.65	-2,559.07	212.95	2,567.91	0.00	395,225.43	725,557.51	
11,180.00	90.40	176.38	8,799.79	-5,465.29	-2,652.88	219.03	2,661.89	0.42	395,131.63	725,563.58	
11,275.00	90.66	176.38	8,798.91	-5,464.41	-2,747.68	225.03	2,756.88	0.27	395,036.82	725,569.58	
11,369.00	91.71	176.30	8,796.97	-5,462.47	-2,841.47	231.02	2,850.84	1.12	394,943.04	725,575.58	
11,464.00	90.04	175.68	8,795.51	-5,461.01	-2,936.22	237.67	2,945.82	1.88	394,848.28	725,582.22	
11,558.00	90.84	175.72	8,794.79	-5,460.29	-3,029.95	244.71	3,039.82	0.85	394,754.55	725,589.27	
11,653.00	91.01	175.51	8,793.26	-5,458.76	-3,124.66	251.98	3,134.81	0.28	394,659.84	725,596.53	
11,683.00	91.28	175.86	8,792.66	-5,458.16	-3,154.57	254.23	3,164.80	1.47	394,629.93	725,598.79	
11,777.00	90.40	176.21	8,791.28	-5,456.78	-3,248.34	260.73	3,258.78	1.01	394,536.17	725,605.29	
11,872.00	90.13	176.82	8,790.84	-5,456.34	-3,343.16	266.51	3,353.76	0.70	394,441.35	725,611.06	
11,967.00	90.40	176.03	8,790.40	-5,455.90	-3,437.97	272.43	3,448.75	0.88	394,346.53	725,616.99	
12,062.00	89.69	176.03	8,790.33	-5,455.83	-3,532.74	279.01	3,543.74	0.75	394,251.76	725,623.56	
12,157.00	89.60	176.30	8,790.92	-5,456.42	-3,627.53	285.36	3,638.73	0.30	394,156.98	725,629.92	
12,251.00	89.60	176.21	8,791.57	-5,457.07	-3,721.33	291.50	3,732.72	0.10	394,063.18	725,636.06	



Pathfinder
Pathfinder X & Y Survey Report

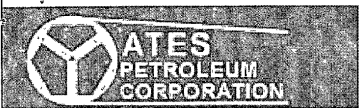


Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #1H
Project:	Eddy County	TVD Reference:	WELL @ 3334.50usft (Patterson #36.21.5 KB)
Site:	Bebop "BPE" State	MD Reference:	WELL @ 3334.50usft (Patterson #36.21.5 KB)
Well:	#1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
12,345.00	89.52	176.65	8,792.29	-5,457.79	-3,815.14	297.35	3,826.70	0.48	393,969.36	725,641.91	
12,440.00	89.60	176.03	8,793.02	-5,458.52	-3,909.94	303.42	3,921.69	0.66	393,874.56	725,647.98	
12,534.00	89.08	174.54	8,794.11	-5,459.61	-4,003.62	311.14	4,015.68	1.68	393,780.89	725,655.70	
12,629.00	89.60	174.71	8,795.20	-5,460.70	-4,098.19	320.04	4,110.66	0.58	393,686.31	725,664.60	
12,710.00	89.69	174.80	8,795.70	-5,461.20	-4,178.85	327.45	4,191.65	0.16	393,605.65	725,672.00	
12,760.00	89.69	174.80	8,795.97	-5,461.47	-4,228.64	331.98	4,241.65	0.00	393,555.86	725,676.54	
BHL-12760.00MD,89.69°INC,174.80°AZI,8795.97°TVD,4241.65°VS,-4228.64°N,331.98°E											

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,279.00	8,277.57	-42.64	-20.49	KOP-8279.00°MD,1.49°INC,166.10°AZI,8277.57°TVD
9,194.00	8,797.30	-672.86	70.67	EOC-9194.00°MD,89.60°INC,171.11°AZI,8797.30°TVD
12,760.00	8,795.97	-4,228.64	331.98	BHL-12760.00°MD,89.69°INC,174.80°AZI,8795.97°TVD,4241.65°VS,-4228.64°

Checked By: _____	Approved By: _____	Date: _____
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PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

Project: Eddy County
Site: Bebob "BPE" State
Well: #1H
Wellbore: OH
Plan: Plan #6 (#1H/OH)



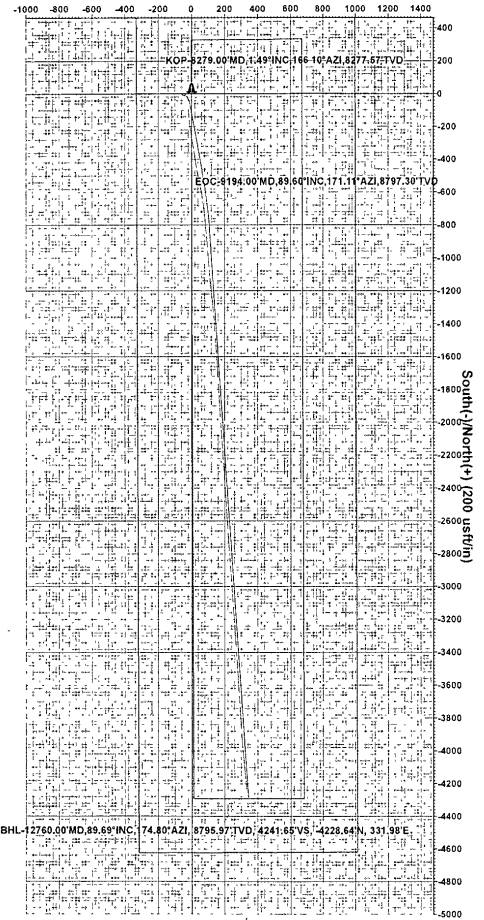
Azimuths to Grid North
True North: -0.32°
Magnetic North: 7.37°

Magnetic Field
Strength: 48547.4nT
Dip Angle: 60.04°
Date: 03/03/2011
Model: IGRF2010



A Schlumberger Company

West(-)/East(+) (200 usft/in)



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
7310.00	1.25	152.48	7308.82	-21.56	-25.35	0.00	0.00	19.47	
8331.50	1.25	152.48	8330.07	-41.32	-15.05	0.00	0.00	39.99	
9072.21	90.00	170.00	8798.00	-511.31	70.94	11.99	17.52	515.34	
9378.13	90.00	176.12	8798.00	-814.84	107.89	2.00	90.00	820.85	
12854.76	90.00	176.12	8798.00	-4283.49	343.24	0.00	0.00	4297.23	PBHL(Bebop State#1H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(Bebop State#1H)	8798.00	-4283.49	343.24	393501.010	725687.800	Point

WELL DETAILS: #1H

Ground Elevation:: 3313.00
RKB Elevation: WELL @ 3334.50usft (Patterson #36 21.5 KB)
Rig Name: Patterson #36 21.5 KB

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	397784.505	725344.556	32° 5' 31.904 N	103° 44' 20.935 W	

